Claims.

1. Method for adjusting a compressed air installation with several compressors, which compressed air installation (1) mainly consists of two or more electrically driven compressors (2-3-4) of what is called the 'loaded/unloaded' compressor (2) type and/or of the turbo compressor (3) type and/or of the compressor (4) type with variable rotational speed, whereby these compressors (2-3-4) are each connected to a single compressed air network (8) with their outlets (5-6-7), and whereby each compressor (2-3-4) is provided with one or several control units (11-12-15-19-20-22-26-34-35), characterised in that the method makes use of a control box (28) onto which is connected a pressure sensor (32) of the above-mentioned compressed air network (8), which control box (28) makes it possible to adjust the pressure (P) in the above-mentioned compressed air network (8) around a target pressure (PS) to be set and within a pressure interval which is limited by a minimum pressure (PMIN) to be set and a maximum pressure (PMAX) to be set, whereby the above-mentioned adjustment takes place by controlling the flow (Q) of one or several of the above-mentioned compressors (2-3-4), in particular in order to increase the overall flow supplied by the compressors (2-3-4) when the pressure drops too much, and in order to lower the overall supplied flow when the pressure becomes too high.

2. Method according to claim 1, characterised in that the control box (28) controls the overall flow of the compressed air installation (1) by giving at least one control order to the aforesaid control unit (11-12-15-19-20-22-26-34-35) of a compressor, which control orders may

consist among others in starting and/or stopping one or several compressors (2-3-4); in opening or closing a controlled inlet valve (11-19) of one or several compressors; in opening or closing an exhaust valve (12-20) of one or several compressors (2-3-4) to a more or lesser degree; and in adjusting the rotational speed of one or several compressors (3-4-5).

3. Method according to claim 1 or 2, characterised in that it consists in that when the pressure (P) in the compressed air network (8) rises above the set target pressure (PS), the control box (28) will increase the overall flow, a certain length of time before the set maximum pressure (PMAX) is reached, and when the pressure (P) in the compressed air network (8) drops below the set target pressure (PS), the control box (28) will reduce the overall flow, a certain length of time before the set minimum pressure (PMIN) is reached.

4. Method according to any of the preceding claims, characterised in that an evaluation table is stored in the memory of the control box (28) beforehand for every compressor (2-3-4) or for every type of compressor of the compressed air installation (1), whereby for every working condition of the compressor (2-3-4) concerned, the influence of an aforesaid control order is assessed, and whereby for every control order of the compressor concerned, a score is given which is positive when the influence of said order is favourable to the output of the compressed air installation (1), and which is negative when the aforesaid influence is unfavourable and whose absolute value is all the greater as the favourable or unfavourable influence is bigger.

5. Method according to claim 4, characterised in that, while the compressed air installation (1) is operational, in order to select the most favourable control order of the scores, the scores of all positive control orders which can direct the overall flow in the required direction in order to bring the pressure (P) in the compressed air network (8) closer to the set target pressure (PS), can be mutually compared by an algorithm, either periodically or continuously, after which the control order concerned with the highest score can be implemented.

6. Method according to claim 5, characterised in that the algorithm, when selecting the most favourable control order, will also take into account the overall score of combined control orders of one or several compressors (2-3-4) which can direct the overall flow in the required direction, whereby this control order or combined control order is subsequently carried out with the highest score.

7. Method according to claim 5 or 6, characterised in that, in order to select the most favourable control order, the above-mentioned scores of the control orders are increased with a value which is equal to the difference between the supplied flow and the required flow after a hypothetic implementation of the control order concerned, multiplied by a negative weighing factor whose absolute value is bigger in the case where the above-mentioned difference is positive than in the case where this difference is negative.

8. Method according to any of claims 5 to 7, characterised in that, in order to select the most favourable control order, the above-mentioned scores of the control orders are increased with a value which is equal to the difference between the supplied flow before the control order and the

hypothetically supplied flow following the control order, multiplied by a negative weighing factor.

9. Method according to any of claims 5 to 8, characterised in that, if an even wear is required for all the compressors (2-3-4), a value is added to the aforesaid scores which is equal to the number of working hours of the compressor (2-3-4) concerned, multiplied by a negative weighing factor.

10. Method according to any of claims 5 to 9, characterised in that, if a forced priority for starting the compressors (2-3-4) is required, a starting priority is accorded to the aforesaid compressors which is added to the above-mentioned scores after multiplication with a negative weighing factor.

11. Method according to any of the preceding claims 5 to 10, characterised in that, if a low selection priority is required for a compressor (2-3-4), a positive value will be added up to the aforesaid scores of this compressor which is all the greater as the priority is low.

12. Control box for adjusting a compressed air installation comprising one or several compressors (2-3-4) according to the method of one of the preceding claims, characterised in that it is mainly provided with connections to one or several control units (11-12-15-19-20-22-26-34-35) of the compressors (2-3-4) for the connection of the control box (28) and with a pressure sensor (32) of the compressed air installation (1); a memory (29) in which can be stored an evaluation table with scores to be inputted by the user; an arithmetic unit (30) with an algorithm which makes it possible to compare the aforesaid scores and to give a control order as a function of the highest selected score.

13. Compressed air installation applying the method according to any of claims 1 to 11, characterised in that it mainly consists of one or several compressors (2) of what is called the 'loaded/unloaded' type; one or several compressors (3) of the turbo compressor type; one or several compressors (4) of the type with a variable rotational speed, whereby these compressors (2-3-4) are each connected to a single compressed air network (8) with their outlets (5-6-7), and whereby each compressor (2-3-4) is provided with one or several control units (11-12-15-19-20-22-26-34-35); a pressure sensor (32); and finally a control box (28) which is connected to one or several of the above-mentioned control units and to the above-mentioned pressure sensor (32).